

USSR/Cultivated Plants - General Problems

M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82244

Author : Stepanova, M.M.

Inst : Scientific Research Institute of Agriculture in the  
Extreme North

Title : Effect of Artificial Warming of the Soil on the Crop  
Yields in Yeniseyskoye Zapolyar'ye

Orig Pub : Byul. nauchno-tekhn. inform. N.-i. in-t s. kh. Krayn.  
Severa, 1957, No 3, 36-37

Abstract : An experiment is described on the artificial warming of  
open ground with hot water (industrial heat waste) pas-  
sing through metal pipes. Data is cited on the yields  
of agricultural crops on soil with and without warming.  
Warming the soil to the temperature of the air or higher  
by 1-2° contributes to a considerable increase in the  
yield of agricultural crops. ... N.F. Kravt-  
sova

Card 1/1

Sibirskii, A. N. Cand. sci.

Dissertation: "Amino-Acid Composition of Proteins in Organs and Tissues under Starvation Conditions and in the Course of Excessive Protein Nutrition." Inst of Nutrition, Acad Med Sci USSR, 24 May 47.

SO: Vechernaya Moskva, May, 1947 (Project #17836)

Stepanova, R.M.

The distribution of methionine-S<sup>35</sup> in the organism of cancerous mice. M. M. Stepanova. Voprosy Onkologii 1, No. 5, 30-21(1957). Mice were injected once with the labeled methionine (I) and other mice were injected repeatedly. Fifteen to 24 hrs. after the injection of I mice were sacrificed and the concn. of the S<sup>35</sup> in the proteins of the cancers and organs detd. These tests were used as controls. Another set of mice inoculated with Ehrlich carcinoma was injected with a single dose of I and 15-20 hrs. later was sacrificed and the concn. of S<sup>35</sup> in their tumors and organs detd. similarly. The highest concn. of S<sup>35</sup> was found in the kidneys, which was followed by the spleen and liver, then by the cancer tissue, in which the S<sup>35</sup> concn. was 50% that of the kidneys. After repeated injections of large doses of S<sup>35</sup> its concn. in the cancer tissue rose to 70-90%, as compared with the previous 50% that of kidney. The concn. of S<sup>35</sup> in the cancer tissue was on a par with that of the liver. On the basis of S<sup>35</sup> concn., the spleen occupied 4th place. The increase in the concn. of I in the cancer tissue following its repeated injection into the organism is thought to be due to its slow elimination from such tissue. The reduced concn. of S<sup>35</sup> in the spleen is thought to be brought about by the aplastic changes produced in that organ by the irradiation effects of S<sup>35</sup>. B. S. Levine

Lab. Exptl. Therapy, Inst. Oncology, AMS USSR

STEPANOVA, M.M., IVANOV, I.I.

Vitamin C and aromatic amino acid metabolism in radiation sickness [with summary in English]. Vop.med.khim. 4 no.5:  
370-372 S-0 '58 (MIRA 11:11)

1. Kafedra biologicheskoy khimii Leningradskogo pediatricheskogo meditsinskogo instituta.

(VITAMIN C, in urine,  
eff. of x-rays (Rus))

(AMINO ACIDS, in urine,  
aromatic, eff. of x-rays (Rus))

(ROENTGEN RAYS, effects,  
on urinary aromatic amino acids & vitamin c (Rus)))

YUR'YEV, V.A.; STEPANOVA, M.M.

Use of ion exchange resins in the chromatographic determination  
of amino acids in urine. Lab. delo 7 no.3:11-13 Mr '61.  
(MIRA 14:3)

1. Kafedra biologicheskoy khimii Leningradskogo pediatricheskogo  
meditsinskogo instituta.  
(URINE—ANALYSIS AND PATHOLOGY)  
(AMINO ACIDS) (PAPER CHROMATOGRAPHY)  
(ION EXCHANGE)

BELOGLAZOV, S.M.; Prinimala uchastiye STEPANOVA, M.N., inzh.

Distribution of hydrogen absorbed by steel during its cathodic treatment in acid and the effect of this distribution on the microhardness of steel. Fiz. met. i metalloved. 15 no.6:885-889 Ja '63. (MIRA 16:7)

1. Permskiy farmatsevticheskiy institut.  
(Steel—Hydrogen content)  
(Hardness)

STEPANCOVA, M. N.

"Significance of Capillaroscopy in Chronic Nonspecific suppurative Processes of the Lungs and Pleura." Sub 2 Oct 51, Central Inst for the Advanced Training of Physicians.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

STEPANOVA, N.N., kandidat meditsinskikh nauk.

Case of late removal of a splinter from the heart. Khirurgia  
no.12:66-67 D '53. (MLRA 7:1)

1. Iz 1-y khirurgicheskoy kliniki (zaveduyushchiy - zasluzhennyy  
deyatel' nauki professor B.E.Linberg) Moskovskogo oblastnogo  
nauchno-issledovatel'skogo klinicheskogo instituta im. M.F.  
Vladimirskogo (direktor A.P.Muzychko).  
(Heart--Foreign bodies)

STRPANOVA, M.N., kandidat meditsinskikh nauk.

Gigantic ganglioneuromas of the posterior mediastinum in children.  
Khirurgija no.8:57-61 Ag. '55. (MLRA 9:2)

1. Iz 2-y khirurgicheskoy kliniki (sav.-dotsent N.I. Makhov)  
Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo  
instituta imeni M.F. Vladimirovskogo (dir.-kandidat meditsinskikh  
nauk P.M. Leonenko)

(GANGLIONEUROMA,

mediastinum, giant, in child, surg.)

(MEDIASTINUM, neoplasms

ganglioneuroma, giant, in child, surg.)

*STEPANOVA, M.N.*

TIKHONOVА, Z.I.; STEPANOVA, M.N., kandidat meditsinskikh nauk; MESHALKIN, Ye.N., kandidat meditsinskikh nauk; BAKULEV, A.N., professor; GULYAYEV, A.V., professor; VOZNESENСKIY, V.P., professor; DMITRIYEV, I.P., professor; OGAEV, B.V., professor; VAZA, D.L., professor; PETROY, B.A., professor, predsedatel'; DOROFEEV, V.I., sekretar'.

Minutes of the session of the Surgical Society of Moscow and Moscow Province  
of June 27, 1952. Khirurgija no.3:84-88 Mr '53. (MTPA 4:6)

1. Khirurgicheskoye obshchestvo Moskvy i Moskovskoy Oblasti.  
(Heart--Surgery) (Cardiovascular system--Surgery)

STEPANOVA, M.N.

ROZENSHTRAUKH, L.S., kandidat meditsinskikh nauk; STEPANOVA, M.N.,  
kandidat meditsinskikh nauk

Bronchography in a pediatric surgical hospital. Khirurgija 33 no.4:  
(MIRA 10:7)  
83-84 Ap '57.

1. Iz kafedry rentgenologii (zav. - prof. Yu.M.Sokolov) Tsentral'-  
nogo instituta usovremenstvovaniya vrachey (dir. V.P.Lebedeva) i  
1-y khirurgicheskoy kliniki (zav. - prof. N.I.Makhov) Moskovskogo  
oblastnogo klinicheskogo instituta (dir. P.M.Leonenko).  
(BROMCHI, radiography  
in child.)

STEPANOVA, M.N.

Two cases of removal of gigantic lung cysts in children. Sov.med.  
22 no.2:129-130 F '58. (MIRA 11:4)

1. Iz 2-y khirurgicheskoy kliniki (zav. - prof. Ya.G.Dubrov)  
Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo  
instituta nauki M.F.Vladimirovskogo.  
(LUNG, cysts  
giant cysts in child., surg. (Rus))

STEPANOVA, M.N., starshiy nauchnyy sotrudnik

Surgery of pyloric stenosis in children [with summary in English].  
Khirurgia 34 no.5:76-81 My '58 (MIRA 11:7)

1. Iz Klinicheskogo khirurgicheskogo otdeleniya (zav. M.N. Stepanova)  
Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta  
imeni M.P. Vladimirovskogo (dir. P.M. Leonenko).  
(PYLORUS, stenosis  
in inf., surg. (Rus))

STEPANOVA, M.N. (Moskva, G-151, Kutuzovskiy prosp., d.22, kv.29)

Two cases of removal of a needle from the heart. Grud.  
khir. l no.3:108-110 My-Je '59. (MIRA 15:3)

1. Iz vtoroy khirurgicheskoy kliniki (zav. - chlen-korres-  
pondent AMN SSSR prof. N.N. Blokhin) Moskovskogo oblastnogo  
nauchno-issledovatel'skogo klinicheskogo instituta imeni  
M.F. Vladimirovskogo (dir. P.M. Leonenko).  
(HEART--FOREIGN BODIES)

STEPANOVA, M.N., starshiy nauchnyy sotrudnik

Bleeding polyps of the large intestine in children, according  
to data from the Moscow Province Research Clinical Institute  
from 1952 to 1957. *Khirurgia* 35 no.4:83-86 Ap '59.  
(*MIRA* 12:8)

1. Iz Moskovskogo oblastnogo nauchno-issledovatel'skogo kliniche-  
skogo instituta imeni M.F.Vladimirovskogo (dir. P.M.Leonenko).  
(**INTESTINE, LARGE, neoplasms**  
bleeding polypi, in child., statist. (Rus))  
(**POLYPI, in inf. & child**  
large intestine, statist. (Rus))

STEPANOVA, M.N.; BORISOVA, N.F., kand.med.nauk

Acute diffuse suppurative peritonitis as a complication of  
chronic nephrosonephritis in children. Pediatrilia 38 no.12:  
17-20 '60. (MIRA 14:2)

1. Iz 2-y khirurgicheskoy kliniki (zav. - prof. Ya.G. Dubrov)  
i pediatricheskoy kliniki (zav. - prof. M.I. Olevskiy) Moskov-  
skogo oblastnogo nauchno-issledovatel'skogo klinicheskogo insti-  
tuta imeni M.F. Vladimirovskogo (dir. - kand.med.nauk P.M. Leonenko).  
(KIDNEYS—DISEASES) (PERITONITIS)

STEPANOVA, M.N.

Surgical treatment of thrombophlebitic splenomegaly in childhood.  
Pediatriia 39 no.2:19-23 F '61. (MIRA 14:2)

1. Iz 2-y khirurgicheskoy kliniki Moskovskogo oblastnogo nauchno-  
issledovatel'skogo klinicheskogo instituta imeni M.F. Vladimirov-  
skogo (dir. - kand.med.nauk P.M. Leonenko).  
(SPLEEN--DISEASES) (VEINS--DISEASES)

STEPANOVA, M.N.; ODINOKOVA, V.A.; ZABAVSKAYA, E.A.

Neuroblastomas of the vertebral fissure in children.  
Khirurgiia no.9:81-85 '61. (MIRA 15:5)

1. Iz 2-y khirurgicheskoy kliniki (zav. - prof. Ya.G. Dubrov),  
patomorfologicheskogo (i. o. zav. A.A. Naumova) i rentgeno-  
logicheskogo (zav. - dotsent A.I. Petrov) otdelov Moskovskogo  
oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta  
imeni M.F. Vladimirovskogo.  
(NERVOUS SYSTEM-TUMORS)

STEPANOVA, M. N.; ODINOKOVA, V. A.

Tumors in children; according to data of the Moscow Province  
Scientific Clinical Research Institute from 1951-1960. Vop. onk.  
(MIRA 15:2)  
8 no.1:33-38 '62.

1. Iz detskogo khirurgicheskogo otdeleniya (zav. - st. nauch.  
sotr. M. N. Stepanova) i patologoanatomiceskogo otdela (i.o. zav. -  
A. A. Naumova) Moskovskogo oblastnogo nauchno-issledovatel'skogo  
klinicheskogo instituta im. M. F. Vladimirovskogo.

(TUMORS) (CHILDREN—DISEASES)

STEPANOVA, M.N., kand.med.nauk; ODINOKOVA, V.A., kand.med.nauk (Moskva,  
Poltavskaya ul., d.38/25, korp.2, kv.17)

Artesia of the biliary tract in infants. Vest.khir. 89 no.11:  
100-107 N '62. (MIRA 16:2)

1. Iz Moskovskogo oblastnogo nauchno-issledovatel'skogo klini-  
cheskogo instituta (dir. - P.M. Leonenko), khirurgicheskoy i  
detskoy kliniki (zav. - prof. Ya.G. Dubrov i prof. M.I. Olevskiy)  
i patologoanatomiceskogo otdela (zav. - prof. S.B. Vaynberg).  
(BILIARY TRACT—ABNORMITIES AND DEFORMITIES)  
(INFANTS—DISEASES)

STEPANOVA, M.N., kand.med.nauk; ODINOKOVA, V.A., kand.med.nauk

Two cases of giant tumors of the thymus gland in children.  
Pediatriia 42 no.1:62-63 Ja'63. (MIRA 16:10)

1. Iz 2-y khirurgicheskoy kliniki (zav. - prof. Ya.G.Dubrov)  
i patologoanatomicheskogo otdela (ispolnyayushchiy obyazani-  
nosti zaveduyushchego A.A.Naumova) Moskovskogo oblastnogo  
nauchno-issledovatel'skogo klinicheskogo instituta imeni  
M.F.Vladimirskogo (dir. P.M.Leonenko).  
(THYMUS GLAND—TUMORS) (CHILDREN—DISEASES)

1. 1970, 1971, 1972, 1973, 1974, 1975, 1976.

Spetsial'noe izuchen'ye seryjnykh mirov. Komit. i pereli. krovii  
MIA 12:31  
n. 2134-32 Ag 16.

I. Per'skoye khimiko-fizicheskoye otdeleniye (zav. M.M. Stepanova) i  
laboratoriya fraktsionirovaniya belkov (zav. - prof. G.Ya. Rozen-  
berg) Tsentral'nogo ordena Lenina instituta hematologii i pereli-  
vaniya krovii, Moskva.

STEPANOVA, M.N., kand. med. nauk; DUBROV, E.Ya.

Clinical aspects and treatment of hemophilia in children. Sov. med.  
27 no.3:104-109 Mr '64. (MIRA 17:11)

I. Detskoye khirurgicheskoye otdeleniye (zav. M.N. Stepanova) Moskov-  
skogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta  
imeni Vladimirovskogo.

YESIPOVA, I.K., prof.; STEPANOVA, M.N.; ROSHAL', L.M.

Clinicomorphological characteristics of lobar emphysema in newborn infants. Sov.med. 28 no.12:77-81 D '65.

(MIRA 18:12)

1. Klinika detskoy khirurgii (zav. otdeleniyem M.N.Stepanova) i patomorfologicheskiy otdel (zav. - prof. I.K.Yesipova) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta imeni M.F.Vladimirskogo (direktor P.M.Lecnenko).

STEPANOVA, M. P.

Stepanova, M. P.

"The Development of the Pelvic Skeleton in the Embryonic Period of Man."  
Min Health RSFSR. Stalingrad State Medical Inst. Stalingrad, 1955.  
(Dissertation for the Degree of Candidate in Medical Science)

So: Knizhnaya letopis', No, 27, 2 July 1955

STEPANOVA, M.P.

Clearing factor and heparin in the blood in arteriosclerosis and  
the influence on these indices of iodine therapy. Terap.arkh.  
no.7:30-34 Jl '62. (MIRA 15:8)

1. Iz kafedry terapii No.1 (zav. - prof. G.M. Shershevskiy)  
Novokuznetskogo gosudarstvennogo instituta dlya usovershenstvo-  
vaniya vrachey.  
(HEPARIN) (ARTERIOSCLEROSIS) (IODINE—THERAPEUTIC USE)  
(LIPOTROPIC FACTORS)

STEPANOVA, M.P.

Effect of vitamin B<sub>12</sub> on the blood clearing factor and heparin  
in atherosclerosis. Terap. arkh. 34 no.12: 48-52 D'62.  
(MIRA 16:6)

1. Iz 1-y kafedry terapii (zav. - prof. G.M.Sherstnevskiy) Nevo-  
kuznetskogo Gosudarstvennogo instituta dlya usovershenstvova-  
niya vrachey (rektor - dotsent G.L.Starikov)  
(ARTERIOSCLEROSIS) (CYANOCOBALAMINE)  
(LIPOPROTEIN LIPASE) (HEPARIN)

STEKANVA, M.P.

Clearing factor and its relation to the development of atherosclerosis; survey of foreign literature. Radiologija 2 no.6  
82-83. N-1 '62. (FRA 1783)

1. Oz leg terapevcheskoy kliniki (dir. - prof. G.V. Snetshchikov)  
Kirovskaznetskaya Institutu sredstv radioelektronnykh sredstv

Stepanov, M. V.

18 18

The influence of lead and antimony upon the properties  
of a-brass (Type L-65). M. V. Mal'isev, M. V. Stepanov,  
and T. I. Dubrovina. Trudy Akademii Nauk SSSR  
Metall., No. 2, 1955, S. 55-58, Inst. Met. 1, 117 (1955).  
Brass with 32% Zn was alloyed with 0.03-0.2% Pb and c.  
0.02-0.30% Sb, and the mech. properties of the alloys ob-  
tained were measured. It was found that the high-temp.  
properties had definitely become worse, as any hot-working  
was rendered extremely difficult, if not impossible. Sb  
alone imparts at room temp. a brittleness which, however,  
is somewhat compensated by the Pb, which renders the  
brass more plastic. If such brass is cast, an Sb-rich phase  
will become occluded in the Pb which precipitates. In an-  
nealed alloys, one recognizes along the grain boundaries  
colored layers which contain Sb, which are sepd. from each  
other by dark Pb layers. Werner Jacobson

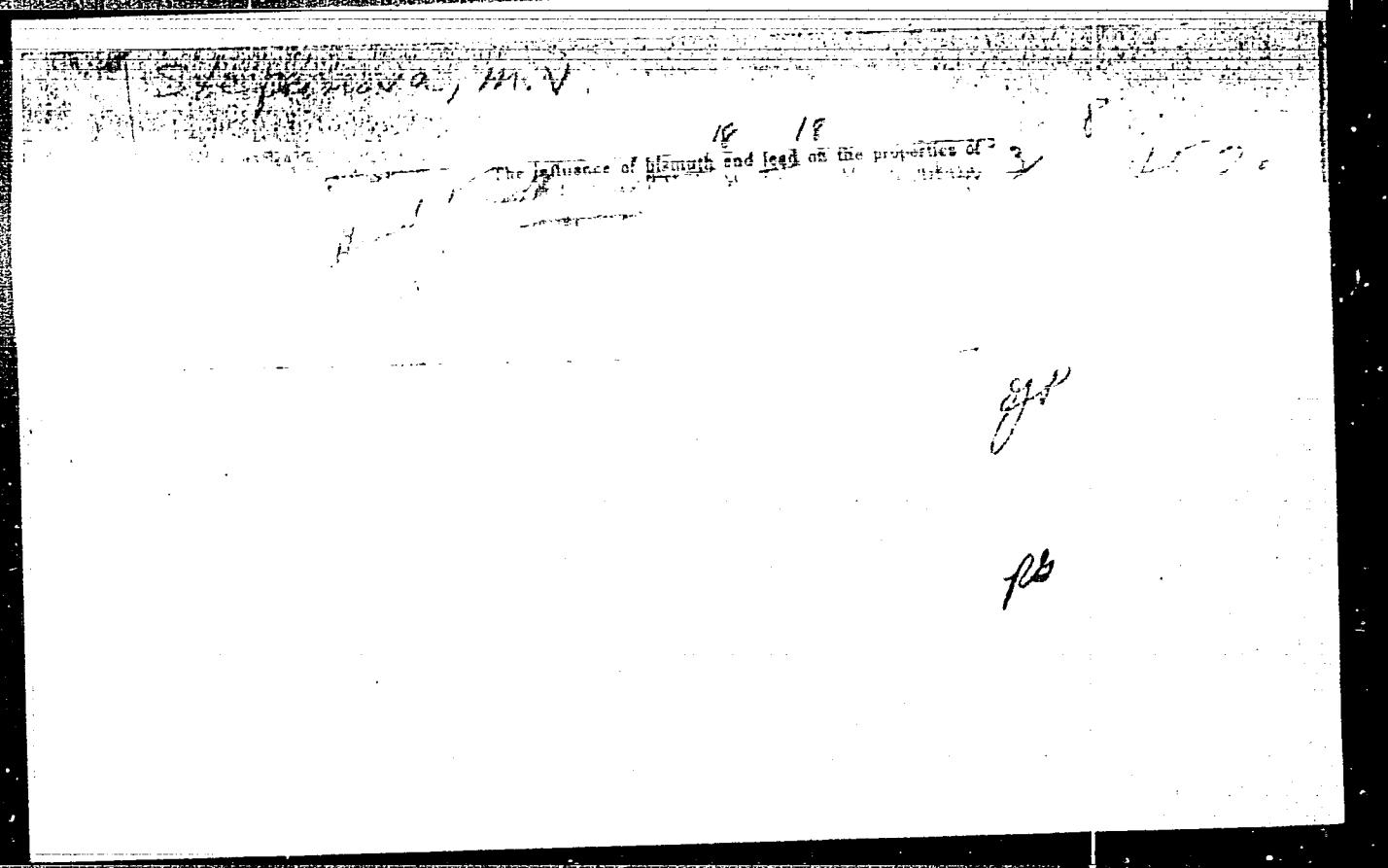
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Struct

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CIA-RDP86-00513R001653220003-9"

Category : USSR/Solid State Physics - Systems

E-4

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 115<sup>4</sup>

Author : Glazov, V.M., Zakharov, M.V., Stepanova, M.V.  
Title : Plotting the Limited-Solubility Surface in a Ternary System by Using the Micro-Hardness Method.

Orig Pub : Izv. AN SSSR, Otd. tekhn. n., 1956, No 1, 162-164

Abstract : Description of methods for preparation of alloys of Cu with Cr and Zr and measuring the micro-hardness. The solubility boundary of Cr and Zr in Cu and the relative influence of these additives and their solubility in Cu were determined for the temperature range 700 -- 1000° from the flexure of the micro-hardness vs. additive concentration curve.

Card : 1/1

STEPANOVA, M. U.

Met  
Investigation of the Copper-Chromium-Zirconium Ternary Equilibrium Diagram. M. V. Zvezdin, M. V. Stepanova, and V. M. Gulyayev [Metallofizika i Otschistka Metallov, 1980, 3], 23-27. [In Russian]. Zvezdin et al. studied the Cu corner of the diagram up to the limits 3.5 wt.-% Cr and 3.5 wt.-% Zr. 200-g. specimens of each of 10 alloys were prepared in a Cu-resistance furnace from M1 electrolytic Cu (99.99%), Cu-6.91% Cr, and Cu-11.1% Zr hardener alloys. The melts were cast in heated cast-Fe moulds, the ingots given 50% reduction by rolling at 400°C., and cut into the required number of specimens. The microstructure of specimens quenched from temp. in the range 300°-1010°C. was examined after etching in a 3% soln. of FeCl<sub>3</sub> in 10% HCl. Micrograph sections show that with increasing temp. the two-phase field increases in area, reaching a max. at 1000°C. (extending roughly to the 1% Cr, 1% Zr lines). At 200°C. (at 600°C.) the other fields present are  $\alpha$  + Cr,  $\alpha$  + Cr<sub>2</sub>Zr, and CrZr<sub>2</sub>, ( $\alpha$  + Cr + Cr<sub>2</sub>Zr), and ( $\alpha$  + Cr<sub>2</sub>Zr + Cu<sub>3</sub>Zr). At 800°C., the two-phase regions broadened considerably, and the microstructure of Cu-1% Cr-1% Zr alloy showed a dark constituent, presumably a ternary ( $\alpha$  + Cr + Cr<sub>2</sub>Zr) eutectic, while both a binary ( $\alpha$  + Cu<sub>3</sub>Zr) eutectic (grey) and a ternary ( $\alpha$  + Cu<sub>3</sub>Zr + Cr<sub>2</sub>Zr) eutectic (dark, fine structure) were observed in the Cu-1% Cr-3% Zr alloy. At 940°C., the latter ternary eutectic began to melt, and the ( $\alpha$  + Cr<sub>2</sub>Zr + Cu<sub>3</sub>Zr) field was replaced by ( $\alpha$  + Cr<sub>2</sub>Zr + *L*), ( $\alpha$  + *L*), and

3

1/2

Zakharov, M. V. 5/12/87  
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1. RLL  
*2/2*

( $\alpha + \text{Cu}_2\text{Zr} + L$ ) regions. At 1000° C., the ( $\alpha + \text{Cu}_2\text{Zr} + L$ ) region disappeared and the ( $\alpha + \text{Cr} + \text{Cr}_2\text{Zr}$ ) region was replaced by ( $\alpha + \text{Cr} + L$ ), ( $\alpha + L$ ), and ( $\alpha + \text{Cr}_2\text{Zr} + L$ ) regions. At 1040° C., the two ( $\alpha + L$ ) fields merged into one.—G. V. E. T.

*- PGS*

~~Stepanova M.O.~~

Neutralizing the Dleterious Effect of Pb on Copper and  
Brass. / M. V. Matisev, V. M. Teplinskaya, and M. V. Sienko/  
Dzer. Metall., 1956, (7), 63-72; Referat. Zhur., Met., 1957,  
16, 277).—[In Russian]. Means of neutralizing the harmful effect  
of Pb on Cu,  $\alpha$ -brasses, and  $(\alpha + \beta)$ -brasses were studied by  
introducing small quantities (0.05-0.3%) of Ce, Cr, and Ca in the  
form of master alloys. The microstructures of the alloys revealed  
that the introduction of the addn. had altered the chem. character  
of the grain-boundary region and had caused a change in the order  
of crystal. and distribution of the structural constituents. In place  
of the low-m.p. Pb, new precipitates appeared at the grain bound-  
aries, accompanied by a sharp rise in the mech. properties and  
workability of the alloys at both room and elevated temp. The  
optimum quantities of Ce, Cr, and Ca were determined. As a  
result of produc.-scale tests, it was proved possible to eliminate the  
harmful effect of Pb by neutralizing addn. under works conditions.

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STEPANOVA, M. V.

27 18  
1. Copper corner of the constitution diagram copper-chro-  
mium-zirconium. M. V. Stepanova, M. V. Stepanova, and  
V. M. Chirkov. M. V. Keldysh Inst. Soderzhaaniya Metal. i

Metall., Moscow. Metallurg. i Obrabotka Metal. 1957, No.  
3, 23-7; cf. C. A. 51, 10425. Differential thermal analyses  
and microhardness measurements were made on 18 Cu-base  
alloys ranging from 0.5 to 3.0% Cr and from 0.25 to 3.0 Zr,  
usually in steps of 0.5%. Pure Cu was used as the standard  
and the heating rate was 4 to 5°/min. The temps. of var-  
ious eutectic reactions were:  $\alpha + \text{Cr} + \text{Cr}_2\text{Zr}$ , 680°;  $\alpha +$   
 $\text{Cr}_2\text{Zr} + \text{Cu}_2\text{Zr}$ , 935°;  $\alpha + \text{Cr}_2\text{Zr}$ , 1020°. The solv. of Cr  
and Zr at various temps. was detd. by microhardness mea-  
surements with app. PMT-3 with a 10-g. load. The hard-  
ness increased rapidly with increasing alloy content in the  
region of solid solv. but it leveled off when the solv. limit was  
reached. The max. solv. occurred when the Cr and Zr con-  
tents were almost equal and the corresponding Cu contents  
were: 700°, 69.4%; 800°, 89.0; 900°, 98.0; 940°, 98.3; 1000°,  
99.0. Addns. of Zr markedly increased the solv. of Cr in  
Cu, but addns. of Cr had little effect on the solv. of Zr.  
The quasi-binary section Cr-Cr<sub>2</sub>Zr was detd. out to 10%  
Cr<sub>2</sub>Zr. Other temp.-compon. sections were detd. for alloys  
contg. 0.5% Cr, 0.5 Zr, 2 Cr, 2 Zr, and 93 Cu. A. G. Gay.

*Stepanova, M.V.*

24-9-20/33

AUTHORS: Glazov, V. M., Zakharov, M.V. and Stepanova, M. V. (Moscow)

TITLE: Influence of the phase composition on the heat resistance  
of alloys of the system copper-chromium-zirconium.  
(Vliyaniye fazovogo sostava na zharoprochnost' splavov  
sistemy med'-khrom-tsirkoniy).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh  
Nauk, 1957, No.9, pp. 123-126 (USSR)

ABSTRACT: Development of new high temperature alloys is based on  
studying the diagram of state and mainly the diagram of  
composition-heat resistance, which is the basis of the  
modern physico-chemical theory of heat resistance. Of  
particular interest are such diagrams relating to complex  
metallic systems, containing three, four or more components.  
In this paper the copper angle of the diagram, copper-  
chromium-zirconium, is investigated and the influence is  
studied of the phase composition on the heat resistance  
of chromium-zirconium bronzes. In earlier work (Refs.2-4)  
the authors established, on the basis of microscopic and  
thermal analyses and measurement of the microhardness of  
the individual structural components, that the copper  
angle of the copper-chromium-zirconium diagram (up to 3.5%  
Cr and 3.5% Zr) is characterised in the solid state by

Card 1/3

24-9-20/33

Influence of the phase composition on the heat resistance of alloys  
of the system copper-chromium-zirconium.

the six-phase ranges  $\alpha$ ; ( $\alpha + Cr$ ); ( $\alpha + Cr + Cr_2Zr$ );  
( $\alpha + Cr_2Zr$ ); ( $\alpha + Cr_2Zr + Cu_3Zr$ ); ( $\alpha + Cu_3Zr$ ) and that  
in the ternary system a quasi-binary section Cu-Cr<sub>2</sub>Zr  
exists which represents the binary diagram of the  
eutectic type with a eutectic transformation temperature  
of 1020°C; this section sub-divides the complex ternary  
diagram into two elementary ternary diagrams of the  
eutectic type with limited solubility in the solid state.  
Furthermore, they established that an area exists of  
uniform solid solutions of Cr and Zr in copper at  
various temperatures. The heat resistance (long duration  
hardness) of Cu-Cr-Zr alloys was investigated along  
three polymetric cuts: the quasi-binary section Cu-Cr<sub>2</sub>Zr,  
the section of the ternary diagram for a variable Zr  
content and a constant (0.5%) Cr content and, finally, the  
section of the ternary diagram with a variable Cr content  
and a constant (0.5%) Zr content. All these sections of  
the diagrams are reproduced in the top part of the Figs. 2,  
3 and 4. For evaluating the heat resistance of the alloys,  
the 30 sec and 60 min hardness values were determined at

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SOV/136/58-8-15/27

AUTHORS: Zakharov, M.V., Karpenko, L.I. and Stepanova, M.V.

TITLE: Relation Between the Tensile Strength and Hardness for Some Copper Alloys at High Temperatures (Sootnosheniye mezhdu predelom prochnosti na razryv i tverdost'yu dlya nekotorykh mednykh splavov pri vysokikh temperaturakh).

PERIODICAL: Tsvetnye Metally, 1958, Nr.8, pp.64-67 (USSR)

ABSTRACT: Hardness determination can form a rapid method of evaluating the short-term tensile strength of metals and alloys if the relation between the two is known. Although linear relations have been found for some ferrous alloys (Refs.5,6) the data for non-ferrous alloys is insufficient. The authors have studied these relations for binary (Cu-Al, Cu-Mn, Cu-Cr, Cu-Zr), ternary (Cu-Ni<sub>2</sub>S, Cu-NiAl, Cu-Gr-Zr, Cu-Ni-Be) and quaternary (Cu-Ni-Be-Zr, Cu-Ni-Be-Cd) copper alloys at 600 and 800°C. Altogether 70 alloys were made from electrolytic copper and the appropriate alloys. All alloys were predeformed in the hot state to 50%. Some were binary and ternary alloys tested in the annealed state (annealing at 800°C for 50-70

Card 1/3

SOV/136-58-8-15/27

Relation Between the Tensile Strength and Hardness for Some Copper Alloys at High Temperatures.

hours); others ternary and quaternary in the heat-hardened state (quenching from 1000°C into cold water followed by 5 hours tempering at 475°C). A 2-ton Amsler press with a loading rate of 20 mm/min. was used for tensile tests, hardness being determined by indentation of a 5-mm radius hemisphere for 30 seconds and all test pieces being heated for 15 minutes in a furnace at the test temperature and soaked for 5 minutes. The results for binary alloys at 800°C (Table 1), for Zr-Cr-Zr alloys at 600 and 800°C (Table 2 and Fig.1) and for Cu-Ni-Be, Cu-Ni-Be-Zr and Cu-Ni-Be-Cd at 600 and 800°C (Table 3 and Fig.2) show a satisfactorily linear hardness vs strength relation, and hot hardness tests are recommended as a first evaluation of hot strength. The compositions of the alloys are given in the tables.

Card 2/3

SOV/136-58-8-15/27

Relation Between the Tensile Strength and Hardness for Some Copper  
Alloys at High Temperatures.

There are 2 figures, 3 tables and 6 references, 4 of  
which are Soviet and 2 English.

1. Copper alloys--Mechanical properties    2. Copper alloys--Temperature  
factors    3. Copper alloys--Test results

Card 3/3

86698

18.7510 1449, 1454

S/180/60/000/006/008/030  
E021/E335

AUTHORS: Glazov, V.M. and Stepanova, M.V. (Moscow)

TITLE: The Chemical Interaction Between the Alloying Components in Copper-based Ternary Solid Solutions

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, No. 6, pp. 61 - 64

TEXT: An investigation of the ternary copper-chromium-zirconium and copper-nickel-beryllium systems which form the molecules  $\text{Cr}_2\text{Zr}$  and  $\text{NiBe}$  was carried out. These systems are of interest from a practical point of view since high conductive heat-resistant alloys are prepared from them. Microhardness values were taken of the quenched solid solutions of various compositions along sections, as shown in Fig. 1, intersecting the quasi-binary  $\text{Cu-Cr}_2\text{Zr}$  and  $\text{Cu-NiBe}$  sections. Samples were rolled with 50% deformation, held at 1 000 °C for two hours and quenched in cold water. Sections were then prepared for microhardness testing, removing the cold work on the

Card 1/2

86698  
S/180/60/000/006/008/030  
E021/E335

The Chemical Interaction Between the Alloying Components  
in Copper-based Ternary Solid Solutions

surface by etching in 3% ferric chloride - 10% aqueous hydrochloric acid solution. The results are shown in Figs. 2 and 3, where microhardness values are plotted against composition. There are minima in all the curves at the compositions corresponding to the compounds  $\text{Cr}_2\text{Zr}$  and NiBe.

This can be explained by the fact that the lattice is distorted to a lesser degree when the chemical compounds are present than when the solute atoms are in a disordered arrangement. There are 3 figures, 1 table and 5 Soviet references.

SUBMITTED: April 23, 1960

Card 2/2

S/180/62/000/003/005/016  
E111/E152

AUTHORS: Glazov, V.M., Stepanova, M.V., and Chuprakova, M.V.  
(Moscow)

TITLE: Contribution to the problem of the reaction between dissolved components in ternary solid solutions

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo.  
no.3, 1962, 58-62

TEXT: Anomalies observed in the Al-Mg-Si system (Ref. 2: V.G. Kuznetsov, Ye.S. Makarov, DAN SSSR, 3, 1939, 23) prompted the authors to investigate in detail the micro-hardness and electrical conductivity of solid solutions in the systems Al-Mg-Si (I), Al-Mg-Ge (II), Cu-Cr-Zr (III) and Cu-Ni-Be (IV). (I) was chosen to supplement available data for ternary systems at high temperatures; (II) to elucidate the nature of the reaction between magnesium and germanium; and (III) and (IV) for the above reasons and because of their possible application as heat-resisting alloys with a high electrical conductivity. The sections with 99 and 99.5 at.% Al were studied in systems (I) and (II)

Card 1/2

S/180/62/000/003/005/016  
Contribution to the problem of ... E111/E152

respectively; those with 95.5 at.% Cu in (IV); and with 1 at.% Cu and 0.6 Zr in (III). Cast alloys were deformed and heat treated. Polished sections and conductivity test pieces were then prepared. The results indicate that there is chemical reaction between the alloying elements in ternary solid solutions which is especially marked when the ratio of alloying components corresponds to the appropriate compound. The nature of the property-composition diagrams obtained can be explained on the assumption that the chemical reaction leads to lattice disturbances localized at definite places, the distortion of the lattice as a whole being less than if the phenomenon was of totally random character.

There are 4 figures.

SUBMITTED: January 2, 1962

Card 2/2

S/020/62/144/003/019/030  
B119/B101

AUTHORS:

Glazov, V. M., and Stepanova, M. V.

TITLE:

Chemical interaction between nickel and manganese at different temperatures in ternary solid solutions on the basis of copper

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 3, 1962,  
565-568

TEXT: Alloys consisting of 90 and 95 at% Cu and varying amounts of Ni and Mn (obtained from the pure metals by melting in evacuated quartz ampoules) were analyzed chemically and subjected to microhardness investigations after previous thermal treatment. This consisted of: tempering ground samples in vacuo at 900, 700, and 500°C for 2, 15, and 30 hr, respectively, and hardening the samples heated to 900°C in water, or cooling the samples treated at 700 and 500°C in air. The microhardness measured was graphically compared with the chemical composition: The microhardness of samples tempered at 900°C increases with increasing Mn content slowly

Card 1/3

S/020/62/144/003/019/030  
B119/B101

Chemical interaction between...

and almost linearly. The curves for the samples tempered at 700 and 500°C show a minimum microhardness at the point of equiaatomic amounts of Ni and Mn (corresponding to the compound NiMn) and a minimum of microhardness with a maximum on each side of it (particularly distinct in samples tempered at 500°C). Thus, the compound NiMn dissolved in Cu is undissociated at 500°C. An increase in the temperature of heat treatment leads to increasing dissociation of the compound, which is complete at 900°C. There are 3 figures. The most important English-language references are: R. E. Hill, H. J. Axon, D. Phil, J. Inst. of Metals, 83, 7, 321 (1954-1955). M. Hansen. Constitution of Binary Alloys, N. Y. - Toronto-London, 1958.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR (Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences USSR). Institut tsvetnykh metallov im. M. I. Kalinina (Institute of Nonferrous Metals imeni M. I. Kalinin)

PRESENTED: February 5, 1962, by I. I. Chernyayev, Academician

Card 2/3

Chemical interaction between...

S/020/62/144/003/019/030  
B119/B101

SUBMITTED: December 20, 1961

✓

Card 3/3

"APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653220003-9

ZAKHAROV, M.V.; PUTSYKIN, G.G.; STEPANOVA, M.V.; TIKHONOV, B.S.;  
VORONTSOVA, L.A.

High strength copper conductor alloys. Issl. splav. tsvet. met.  
no.4:239-244 '63. (MIRA 16:8)

(Copper alloys---Electric properties)

APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653220003-9"

ACCESSION NR: AP4009847

S/0149/63/000/006/0131/0135

AUTHORS: Stepanova, M. V.; Mogilevskaya, V. Ye.

TITLE: The effect of deformation of a solution upon the recrystallization of Al-Cu alloys

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 6, 1963, 131-135

TOPIC TAGS: aluminum copper alloy, annealing, deformation, tempering, aging, crystallization, crystallization center, recrystallization, dispersion, solid solution, heat resistance, two phase alloys

ABSTRACT: The effect of aging of Al-Cu' alloys on the temperature of initial re-crystallization was studied. Eleven samples containing from 0 to 7% copper were prepared. These were homogenized for 8 hours at 500C and then rolled at the same temperature with a 33% reduction. The hot blanks were annealed for 30 minutes at 400C, followed by air cooling. The subsequent rolling was conducted in the cold to a thickness of 0.5 mm, with intermediate tempering according to an identical regimen. The bands were cut in two and subjected to different thermal treatment. The first regimen consisted in stepwise annealing for a duration of approximately 27 hours, during which the temperature was staggered from 600C down to room

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ACCESSION NR: AP4009847

temperature. In the second regimen the bands were heated to 500C, followed by annealing in water, a four-day aging period, and then by cold rolling with an 80% reduction. These Al-Cu alloy samples were subjected to thermal treatment for 30 minutes at various temperatures until the appearance of pinpoints on a Debye crystallogram, recorded as the thermal point of initial crystallization (TPIC). In samples treated according to the first regimen, the thermal point of initial crystallization increased from 230 to 255C with an increase of copper in the alloy from 0 to 0.84%. A further increase of copper up to 7% caused a gradual drop of the TPIC to 190C. In the samples treated by the second regimen the TPIC temperatures continue to increase from 230C to 315C with increasing copper content in the alloy from 0 to 7%. A microscopic examination of the first series of samples revealed microdispersed inclusions of CuAl<sub>2</sub> within the grains as well as along their boundaries in the alloy specimens containing 0.53 - 1.3% copper. A further increase in the copper content caused the CuAl<sub>2</sub> inclusions to increase in size and to become coarsely dispersed. The microscopic picture of the samples of the second series revealed a finely dispersed CuAl<sub>2</sub> phase, which increased all the way with higher copper content in the alloy. The authors assume that the particles of the liberating CuAl<sub>2</sub> phase may inhibit the development of the centers of recrystallization. It was also found that the relative heat resistance of the various Al-Cu alloys, as determined on the basis of their lasting hardness at 300C, runs almost

Card 2/3

ACCESSION NR: AP4009847

parallel to their TPIC. Orig. art. has: 1 picture, 1 table, and 2 charts.

ASSOCIATION: Moskovskiy institut stali i splavov, Kafedra metallovedeniya  
tsvetnykh, redkikh i radioaktivnykh metallov (Moscow Institute of Steel and All  
Alloys, Department of Metallurgy of Nonferrous, Rare, and Radioactive Metals)

SUBMITTED: 00

DATE ACQ: 07Feb64

ENCL: 00

SUB CODE: ML

NO REF Sov: 005

OTHER: 001

Card 3/3

ACCESSION NR: AT4001240

8/3031/63/000/035/0233/0238

AUTHORS: Zakharov, M. V.; Stepanova, M. V.; Karpenko, L. I.; Gorlenko, N. P.; Mogilevskaya, V. Ye.

TITLE: Effect of composition on recrystallization temperature and heat resistance of copper alloys

SOURCE: Gosudarstvennyy institut tsvetnykh metallov. Sbornik nauchnykh trudov. Moscow, no. 35, 1963, 233-238.

TOPIC TAGS: heat resistance, recrystallization temperature, copper chromium alloy, copper iron alloy, copper chromium zirconium alloy, copper nickel beryllium alloy, copper nickel aluminum alloy, copper nickel silicon alloy

ABSTRACT: To check on the hypothesis that heat resistant alloys have high temperature recrystallization levels, exceeding their working temperatures, as is the case for Cu-Sn and Cu-Zn alloys (M. V. Zakharov, Collection Issledovaniye splavov tsvetnykh metallov (Investigation of Nonferrous Alloys, AN SSSR, 1955), the authors compared the dependence of the start-of-recrystallization temperature

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ACCESSION NR: AT4001240

and the heat resistance on the composition of copper alloys, and established the presence of such a dependence in the systems Cu-Cr, Cu-Fe, Cu-Cr-Zr, Cu-Ni-Be, Cu-Ni-Al, and Cu-Ni-Si. The temperature of the start of the recrystallization increases with increasing concentration of the alloying elements in the solid-solution region, reaches a flat maximum in the two-phase region, and then again decreases smoothly. The curves of the start-of-recrystallization temperature and the long-term hardness against the composition are similar in first approximation, if the long-term hardness is determined at temperatures that exceed the temperature of the start of recrystallization. The maximum heat resistance and the minimum temperature of the start of recrystallization lie in the region of weakly-heterogeneous aging alloys. The close connection between the heat resistance of an alloy and recrystallization is fully confirmed by the experimental data obtained. Orig. art. has: 7 figures.

ASSOCIATION: Gosudarstvennyy institut tsvetnykh metallov (State Institute of Nonferrous Metals)

Card 2/2

L 37233-66 EWP(m)/EWP(v)/F/EWP(t)/ETI/EWP(k) IJP(c) JH/HM  
ACC NR: AP6016334 (N) SOURCE CODE: UR/0149/65/000/006/0106/0113  
*86*

AUTHORS: Zakharov, M. V. (Professor); *77*  
Korolev, F. V.; Chizhov, S. I.; Tikhonov, B. S.; *B*  
Stepanova, M. V.; Sliozberg, S. K.

ORG: Moscow Institute of Steel and Alloys, Chair for the Metallurgy of Nonferrous, Rare, and Radioactive Metals (Moskovskiy institut stali i splavov, Kafedra metallovedeniya tsvetnykh, redkikh i radioaktivnykh metallov)

TITLE: New transmission copper alloys, their alloying principles, properties, and uses *1*

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 6, 1965, 106-113

TOPIC TAGS: METAL HEAT TREATMENT, WELDING, THERMAL STABILITY,  
copper alloy, nickel containing alloy, chromium containing alloy / Br.NBT  
copper alloy, Mts-5A copper alloy

ABSTRACT: The alloying techniques, properties at different temperatures, and stability under contact welding of a number of transmission copper alloys were investigated. The investigation supplements the results of V. M. Glazov, M. V. Stepanova, and M. V. Chuprakova (Izv. AN SSSR, OTN, No. 3, 1962). The experimental results are summarized in graphs and tables (see Fig. 1). It was found that the most thermostable transmission alloys are Mts-5A and Br.NBT, situated on the quasi-binary sections of Cu--Cr<sub>2</sub>Zr

Card 1/2

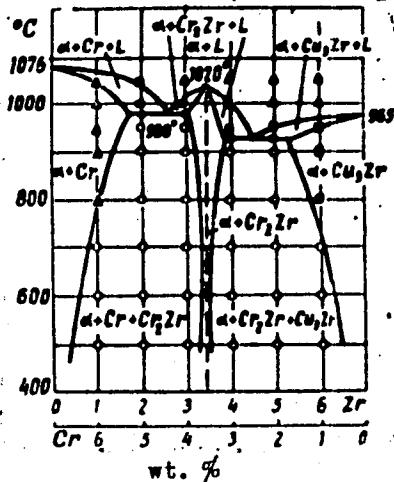
UDC: 669.35

L 37738-66

ACC NR: AP6016334

Fig. 1. Polythermic cross section,  
perpendicular to the quasi-binary  
section Cu-- $\text{Cr}_2\text{Zr}$  at 93% Cu.

17 27



and Cu--NiBe respectively. The most effective thermal treatment of the alloys consists of quenching which results in the formation of a supersaturated solution, followed by cold deformation of 40--60%, and annealing at  $0.55 T_{mp}$  of the alloy. The best alloy for spot welding was found to be the alloy Mts-5A and for seam welding the alloy Br.NBT. Orig. art. has: 3 tables and 6 graphs.

SUB CODE: 11/ SUBM DATE: 25Jun64/ ORIG REF: 005

Card 2/2 vmb

LAWRENCE LIBRARY/REF ID: A6621057 (A,N) SOURCE CODE: UR/0292/66/000/003/0021/0023  
47

AUTHOR: Zakharov, M. V. (Doctor of technical sciences); Putsykin, G. G.  
(Candidate of technical sciences); Stepanova, M. V. (Candidate of technical  
sciences); Vorontsova, L. A. (Engineer)

ORG: none

TITLE: Alloys for electric-machine commutators

SOURCE: Elektrotekhnika, no. 3, 1966, 21-23

TOPIC TAGS: electric machine, electric machine commutator, copper alloy

ABSTRACT: The results are reported of an experimental investigation of high-conductivity low-alloy coppers: Cu-Ni-Be, Cu-Ni-Ti, Cu-Cr-Zr, Cu-Cr-Mg, Cu-Cr-Be, Cu-Cr-Ti, Cu-Co-Be, Cu-Cr-Al, Cu-Cr-Cd, Cu-Fe; for control purposes, copper M1, a copper-magnesium alloy, and Cu-Zr and Cu-Cr bronzes

Card 1/2

UDC: 669.35.001.5

L 09937-57

ACC NR: AP6021057

were also tested. The alloys were subjected to two treatments: (1) Water-quench hardening at 960-980C and tempering at 470-480C for 5 hrs; (2) The same hardening, then 50% workhardening, and then tempering at 470-480C for 4 hrs. Experimental curves and tabulated data show that: " ". By their hardness, wear resistance, heat resistance, and electric conductivity, the following alloys can be recommended for the commutators of electrical machinery operating at 350-500C: a chrome-zirconium bronze containing 0.25-0.5% Cr and 0.15-0.35% Zr (or its cheaper substitute, chrome-magnesium bronze) and a nickel-beryllium bronze containing 0.8-1.1% Ni and 0.15-0.25% Be. The second thermal treatment is recommended for these bronzes. Orig. art. has: 1 figure and 2 tables.

10

SUB CODE: 11, 69 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 005

ACC NR: AP7002866

SOURCE CODE: UR/0149/66/000/006/0159/0141

AUTHORS: Stepanova, M. V.; Makarov, I. I.

ORG: Moscow Institute for Steel and Alloys. Department of Nonferrous, Rare, and Rare Earth Metals (Moskovskiy institut stali i splavov. Kafedra metallovedeniya tsvetnykh, redkikh i redkozemel'nykh metallov)

TITLE: The influence of cold deformation on the onset of recrystallization temperature in aging metals

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 6, 1966, 139-141

TOPIC TAGS: alloy, aluminum alloy, copper alloy, zirconium containing alloy, metal recrystallization/ D16 alloy, AV alloy

ABSTRACT: The effect of cold deformation of alloys D16 and AV and of two Cu-Zr bronzes with 0.09 and 0.26% Zr, respectively, on the recrystallization temperature of these alloys was studied. The study supplements the results of M. V. Stepanova and V. Ye. Mogilevskaya (Izv. VUZ, Tsvetnaya metallurgiya, No. 6, 1963). The metal specimens were hot rolled, annealed, and then cold rolled. The recrystallization temperature (fixed by x-ray techniques) was determined as a function of the degree of cold deformation. The experimental results are shown graphically (see Fig. 1). It is concluded that the formation of a supersaturated solid solution, prior to cold deformation, and its decomposition during recrystallization annealing may be the cause

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UDC: 620.181

ACC NR: AP7002866

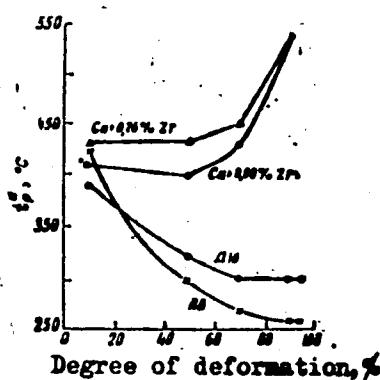


Fig. 1. Dependence of the recrystallization temperature on the degree of cold deformation during cold rolling

for the observed increase in the recrystallization temperature as a result of cold deformation. Orig. art. has: 1 table and 3 graphs.

SUB CODE: 11/ SUBM DATE: 29Sep65/ ORIG REF: 008

Card 2/2

TASHMUKHAMEDOV, I.; ZAKHAROV, V.A.; KARAKOZOVA, A.A.; STEPANOVA, M.Ya.;  
AMEDZHANOV, A.

Prescriptions filled at pharmacies of the therapeutic institutions  
of Tashkent. Apt. delo 14 no.5:72-76 S-O '65.

(MIRA 18:11)

1. Tashkentskiy farmatsevticheskiy institut.

STEPANOVA, M.Yu.

Fusarioses of annual legumes in Leningrad Province. Bot. zhur.  
47 no.7:1010-1015 Jl '62. (MIRA 15:9)

1. Vsesoyuznyy institut zashchity rasteniy, Leningrad.  
(Leningrad Province--Fusarium)  
(Leningrad Province—Legumes—Diseases and pests)

STEPANOVA, M.Yu.

Fusarium infection of annual legume seeds. Zashch. rast. ot vred.  
i bol. 8 no.7:17-18 Jl '63. (MIRA 16:9)

ZAKHAROVA, T.I.; STEPANOVA, M.Yu.

Fluorescent method of determining the viability of spores.  
Zashch. rast. ot vred. i bol. 9 no.2:45-46 '64.

(MIRA 17:6)

1. Vsesoyuznyy institut zashchity rasteniy.

KRYUKOV, Yu.B.; BUTYUGIN, V.K.; LIBEROV, L.G.; STEPANOVA, N.A.; BASHKIROV, A.N.

Synthesis of butyl alcohol containing radioactive carbon C<sup>14</sup>. Trudy  
Inst.nefti 12:299-303 '58.  
(Butyl alcohol) (Carbon--Isotopes)

(MIRA 12:3)

112-57-8-18003

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 8,  
p 312 (USSR)

AUTHOR: Stepanova, N. A.

TITLE: Methods of Measuring Electrical Fluctuations (Metody izmereniya  
elektricheskikh fluktuatsiy)

PERIODICAL: Sb. nauch. tr. Tsentr. n.-i. in-ta svyazi (Collection of  
Scientific Transactions of the Central Scientific-Research Institute of  
Communications), Moscow, Svyaz'izdat, 1956, pp 136-155

ABSTRACT: Indicated are three methods of measuring internal noise in electronic equipment: direct, comparative, and modulation. Also indicated are sources of fluctuation noise that are used for noise generators needed for measuring by the two latter methods. Simplified circuits of various noise generators are presented. Bibliography: 11 items.

N. Ye. L.

Card 1/1

AKULOV, V.V., kand.geogr.nauk; BABUSHKIN, L.N., doktor geogr.nauk;  
ORESHINA, L.M.; SIVORTSOV, Yu.A., doktor geol.-mineral.nauk;  
PETROV, N.P., kand.geol.-mineral.nauk; CHORNEVSKIY, N.N.;  
KRYLOV, M.M., doktor geol.-mineral.nauk; KHASMOV, A.S.;  
BEDER, B.A., kand.geol.-mineral.nauk; KIMBERG, N.V., kand.  
sel'skokhoz.nauk; SUCHKOV, S.P.; GLAGOLEVA, A.F.; PERVU-  
SHINA-GROSHEVA, A.N.; VERNIK, R.S., kand.biol.nauk; MOMOTOV,  
I.F.; GRANITOV, I.I., kand.biol.nauk; SALIKHBAEV, Kh.S., kand.  
biolog.nauk; STEPANOVA, M.A., kand.biolog.nauk; YAKHONTOV, V.V.;  
DAVLETSHINA, A.G., kand.biolog.nauk; MURATBEKOV, Ya.M., kand.  
biolog.nauk [deceased]; KUKLINA, T.Ye.; KORZHENEVSKIY, N.L., red.;  
[deceased]; GORBUNOV, B.V., kand.geologo-mineral.nauk, red.;  
DONSKOY, P.V., red.; YAKOVENKO, Ye.P., red.izd-va; GOR'KOVAYA,  
Z.P., tekhn.red.

[Materials on the productive forces of Uzbekistan] Materialy po  
proizvoditel'nym silam Uzbekistana. Tashkent. No.10. [Natural  
conditions and resources of the lower reaches of Amu-Darya;  
Kara-Kalpak A.S.S.R. and Khorezm Province of the Uzbek S.S.R.]  
Prirodnye uslovija i resursy nizov'ev Amu-Dar'i; Kara-Kalpakskaia  
ASSR i Khorezmskaia oblast' UzSSR. 1959. 351 p. (MIRA 13:5)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Sovet po izucheniyu  
proizvoditel'nykh sil. 2. Chleny-korrespondenty AN UzSSR (for  
Yakhontov, Korzhenevskiy].  
(Amu-Darya Valley--Physical geography)

STEPANOVA, N.A.

First Republic conference on problems in the over-all utilization  
of Uzbekistan waters. Uzb.biol.zhur. no.2:69 '60. (MIRA 14:5)  
(UZBEKISTAN--WATER RESOURCES DEVELOPMENT)

STEPANOVA, N.A.

Interrepublic conference on the pond fish culture. Uzb. biol. zhur.  
no.2:60 '61. (MIRA 14:5)  
(SOVIET CENTRAL ASIA—FISH CULTURE)

STEPANOVA, N. A.

"The biological principles of the treatment and prophylaxis of lambliasis."  
Acad Med Sci USSR. Alma-Ata, 1956. (DISSERTATION For the Degree of  
Candidate in BIOLOGICAL SCIENCE.)

Knizhnaya letopis'  
No 33, 1956, Moscow

ROYZEN, I.S.; POZAMANTIR, A.G.; MEDVEDEVA, V.S.; BYTENSKIY, V.Ya.; STEPANOVA,  
N.A.; SAPOZHKOVA, R.A.

Investigating the danger of the explosion of acetylating mixtures.  
Bezop. truda v prom. 8 no.10:45-47 O '64. (MIRA 17:11)

ZAKHAROVA, M.S.; BATEVA, V.A.; STEFANOVA, N.A.

Titration of diphtheria and tetanus antitoxins in small quantities of blood. Zhar.mikrobiol.,epid.i immun. 40 no.12:68-72 D '63.  
(MIRA 17:12)  
1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

STEPANOVA, N.B.; KHURGIN, Yu.I.; POROSHIN, K.T.

Polycondensation of ethyl glycinate in the presence of ethyl alcohol. Izv. AN SSSR. Otd. khim. nauk no. 1:160-162 Ja '61.  
(MIRA 14:2)

1. Institut organicheskoy chimii im.N.D. Zelinskogo AN SSSR.  
(Glycine)

STOLYAROV, Ivan Karpovich; STEPANOVA, N.D., red.; KHLOBORDOV, V.I.,  
tekhn. red.

[Communists in the most important sectors of production]  
Kommunisty na reshaiushchikh uchastkakh proizvodstva.  
Krasnodar, Krasnodarskoe knizhnoe izd-vo, 1961. 39 p.  
(MIRA 16:10)

1. Sekretar' Beloglinskogo rayonnogo komiteta KPSS (for Stolyarov).  
(Communist Party of the Soviet Union--Party work)  
(Belya Glina District—Collective farms)

AUTHORS: Krykov, Yu.B., Butyugin, V.K., Liberov, L.G., Stepanova,  
N.D. and Bashkirov, A.N.

65-6-4/13

TITLE: The use of radioactive carbon for the investigation of the behaviour of methane under conditions of the synthesis of hydrocarbons from CO and H<sub>2</sub> on iron catalysts. (Ispol'zovaniye radioaktivnogo ugleroda dlya issledovaniya povedeniya metana v usloviyakh sinteza uglevodorodov iz CO i H<sub>2</sub> na zheleznykh katalizatorakh).

PERIODICAL: "Khimiya i Tekhnologiya Topliva i Maser" (Chemistry and Technology of Fuels and Lubricants) 1957, No.6, pp.26-33

ABSTRACT: A critical survey of the literature on the problem of the role of methane in the synthesis of hydrocarbons from CO and H<sub>2</sub> is given. An experimental investigation of the above problem was carried out using methane containing radioactive C<sup>14</sup>. Radioactive methane was obtained by hydrogenating Cl<sup>14</sup>O<sub>2</sub> over an Bi-Al<sub>2</sub>O<sub>3</sub> catalyst and Cl<sup>14</sup>O<sub>2</sub> was obtained by decomposing a mixture of BaCO<sub>3</sub> + BaC<sup>14</sup>CO<sub>3</sub> with sulphuric acid. The apparatus used for the synthesis of hydrocarbons is described and shown in a diagram. The catalyst used was developed in the Petroleum Institute of

Card 1/3

The use of radioactive carbon for the investigation of the behaviour of methane under conditions of the synthesis of hydrocarbons from CO and H<sub>2</sub> on iron catalysts. (Cont.) reaction of isotope exchange with carbon monoxide, carbon dioxide and hydrocarbons.

There are 5 tables, 1 figure and 29 references, including 10 Slavic.

ASSOCIATION: Petroleum Institute of the Academy of Sciences of the U.S.S.R. (Institut Nefti AN SSSR).

AVAILABLE:

Card 3/3

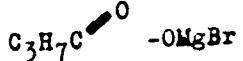
STEPANOVA, N. V.

AUTHORS: Kryukov, Yu. B., Butyugir, V. K., Liberov, L. G., 62-11-25/29  
Stepanova, N. D., Bashkirov, A. N.

TITLE: Synthesis of the Butyl Alcohol Containing the Radioactive Carbon Isotope C14 (Sintez butilovogo spirta, soderzhashchego radioaktivnyy izotop ugleroda C<sup>14</sup>)

PERIODICAL: Izvestiya AN SSSR, Otdel.Khim.Nauk, 1957, Nr 11, pp. 1404-1406  
(USSR)

ABSTRACT: Here a new method for the synthesis of butyl alcohol, which is tagged by radio-carbon C<sup>14</sup>, is introduced. This method is characterized by simplicity and a high output of special product. The method consists of two phases: magnesium-organic synthesis of so-butyric acid with elimination of the latter in the form of sodium-butyrate and the restoration of the salt by lithiumaluminhydride. The method can be applied for the synthesis of different alcohols containing the radio-carbon C<sup>14</sup>. It is shown that a synthesis of the tagged butyl alcohol is also possible without preceding elimination of butyric acid by means of immediate restoration of the magnesium-organic complex



by lithiumaluminhydride. There are 2 Slavic references.

ASSOCIATION: Petroleum Institute of the AN USSR (Institut nafti Akademii  
Card 1/2

KRIVOV, Yu. P., BASHIROV, A. N., BUTYGIN, V. K., TIREROV, L. G., and STEPAKOVA, N. D.  
(Petroleum Institute AS USSR)

"Intermediate Compounds in the Synthesis of Hydrocarbons and Oxygen-Containing  
Compounds of Carbon Monoxide and Hydrogen on Iron Catalysts." p. 58.

Sources and Radiation in Chemistry, Collection of Papers of the  
Second Int. Conf. on Use of Radioactive and Stable Isotopes and  
Radiation in National Economy and Science, Moscow, 1960, Vol. 2, p. 58.

This volume published by request of the Executive Committee of the  
All-Union Sci. Conf. on Use of Radioactive and Stable Isotopes and Radiation  
in National Economy and Science, organized by Acad. S. I. Vinogradov,  
Chairman, and the Executive Com. of the All-Union Sci. Council of Mininstry of Ener-

*Argonov, N. D.*

AUTHORS: Krugkov, Yu. B., Bashkirov, A. N., Butyugin, V. K., Liberov, L. G., Stepanova, N. D. 62-58-5-22/27

TITLE: Conversions of Butylene on the Conditions of Synthesis of CO and H<sub>2</sub> by Way of Molten Iron Catalysts (Prevrashcheniya butilena v usloviyah sinteza iz CO i H<sub>2</sub> nad plavlenymi zheleznymi katalizatorami)

PERIODICAL: Izvestiya Akademii Nauk SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 5, pp. 642-644 (USSR)

ABSTRACT: The present report is a trial of investigating the ways of conversion of the olefins forming in the process of the synthesis of the hydrocarbons and of the oxygen-containing compounds of CO and H<sub>2</sub>. Butylene marked by means of the carbon isotope C<sup>14</sup> in the state (polozhenii) 1 served as indicator of the behavior of olefin under the conditions given by the synthesis. The experiment has shown that butylene does not participate in the formation of alcohols, as well, as in the formation of highest hydrocarbons (by way of C<sub>9</sub>) neither and that it is no intermediate product. Butylene can react with CO and H<sub>2</sub> under the investigated conditions by producing a C<sub>5</sub>-hydrocarbon. It also submits to dehydration, oxidation and hydro-

Card 1/2

Conversions of Butylene on the Conditions of Synthesis of CO and H<sub>2</sub> by Way of Molten Iron Catalysts 62-58-5-22/27

cracking. There are 1 figures, 1 table, and 11 references, 9 of which are Soviet.

ASSOCIATION: Institut nefti Akademii nauk SSSR (Petroleum Institute AS USSR)

SUBMITTED: January 2, 1958

1. Hydrogen isotopes--Synthesis
2. Carbon monoxide--Synthesis
3. Ethylenes--Chemical reactions
4. Butylene--Chemical reactions
5. Carbon isotopes (Radioactive)--Applications

Card 2/2

20-19-6-27/56

AUTHORS: Kryukov, Yu. B., Bashkirov, A. N., Patyagin, V. K.,  
Liberov, L. G., Stepanova, N. D.

TITLE: On the Uniformity of the Mechanism of Synthesis of Hydrocarbons and Oxygen Containing Compounds of CO and H<sub>2</sub>.  
(O jedinstvenyye mekhanizmy sinteza uglevodorodov i kisferod-soderzhashchikh soyedinenii iz CO i H<sub>2</sub>)

PERIODICAL: Doklady Akademii nauk SSSR, 1968, Vol. 119, No. 6 pp. 1152-1155  
(USSR)

ABSTRACT: For the synthesis of CO and H<sub>2</sub> different schemes were proposed. According to them both processes mentioned in the title proceed independent of each other in two different ways. (Refs 1-5). Contrary to this fact experimental data exist, which permit the assumption that a uniform mechanism exists in introducing the products of synthesis and in the structure of carbon chains of the aliphatic compounds from CO under the influence of hydrogen. In order to prove that, the authors have experimentally investigated the ways of conversion of alcohols under the real conditions of synthesis of the primary products of syn-

Card 1/3

On the Uniformity of the Mechanism of Synthesis of Hydrocarbons and Oxygen  
Containing Compounds of CO and H<sub>2</sub> 20-10-6-27/56

is guaranteed. The further growth takes place thanks to the continuous connection of C<sub>1</sub> to the growing complexes C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> and so on. Also the molecules CO and H<sub>2</sub> can be taken up and a further hydration of the growing complexes until the formation of a stable compound (aldehyde, alcohol, olefin, or paraffin) seems to be not impossible. There are 2 figures and 11 references; 3 of which are Soviet.

ASSOCIATION: Institute of the Academy of the SSSR  
(Baku Institute of the USSR)

PRESENTED: December 27, 1957 by A. V. Topchikov, Member, Academy of Sciences, USSR

SUBMITTED: December 24, 1957

Card 3/3

*STEPANOV, N.D.*

8/15/60/001/002/006/010  
B000/0057

AUTHOR: L'vov, Yu. S., Bakhnikov, A. S., Liberman, I. G., Stepanov, N. D., Egorov, Yu. S.

PUBLISHER: V. F. Stepanov, N. D.

CONVENTION OF IRON CARBIDE UNDER THE CONDITIONS OF THE

SYNTHESIS OF HYDROCARBONS FROM CARBON MONOXIDE AND HYDROGEN

MATERIALS: Elektrostal' I Institute, 1960, Vol. 1, No. 2, pp. 274 - 281

NOTE: The present paper was presented at the All-Union Conference on Organic Catalysis in November 1959. The authors attempted to explain the part played by carbide as intermediate compound in the synthesis of hydrocarbons. They used a standard iron catalyst with charcoal admixture, which was reduced at 1000°C and activated at 1000°C and 20 atm with the initial gas mixture  $CO + H_2$  ( $1 + 1$ ), which contained  $C^{14}$ . The catalyst, enriched with radioactive iron carbide, was then treated with pure  $CO + H_2$ . The radioactivity of the products formed was then measured.

Card 1/2

8/15/60/001/002/006/010  
B000/0057

CONVENTION OF IRON CARBIDE UNDER THE  
CONDITIONS OF THE SYNTHESIS OF HYDROCARBONS  
FROM CARBON MONOXIDE AND HYDROGEN

NOTE: Redetermination of C isotopes between  
methane and carbide. The rate of these reactions is low as compared to that  
of the syntheses reaction. Of 3000 CO molecules, only one exchanges its  
isotope of  $^{13}C$  with  $^{14}C$ , molecules, only five are formed by carbide hydrogenation. Thus,  $^{13}C$  or the hydrogenation with  $C^{14}$  was formed under  
the conditions of carbide. These data rebut the hypothesis according to which  
the intermediate in hydrocarbon synthesis from  $CO + H_2$  is formed  
from  $CO + H_2$ . There are 2 figures, 2 tables, and 22 references, 13 Soviet, 5 US,  
1 British, and 1 German.

ASSOCIATION: Institute of Refining and Hatcheting State Research Institute of  
Petroleum Synthesis of the USSR (BSSR)

SUMMITED: January 23, 1960

Card 2/2

33496

S/195/61/002/005/023/027  
E040/E185

5.1190

AUTHORS: Kryukov, Yu.B., Bashkirov, A.N., Liberov, L.G.,  
Butyugin, V.K., and Stepanova, N.D.

TITLE: On the mechanism of chain growth in the synthesis of  
organic compounds from CO and H<sub>2</sub> on iron catalysts

PERIODICAL: Kinetika i kataliz, v.2, no.5, 1961, 780-787

TEXT: A brief survey of the previous investigations of the  
synthesis of organic compounds from CO and H<sub>2</sub> mixtures on cobalt  
and iron catalysts showed that the mechanism of the chain growth  
can be visualised either as 1) condensation of oxygen-containing  
complexes, with separation of water, or 2) the growth of the  
carbon chain can be assumed as being preceded by the splitting off  
of oxygen atoms from the carbon monoxide molecule and a subsequent  
chain growth by the mechanism of polymerisation of methyl  
radicals. The experimental evidence at present available appears  
to be somewhat contradictory and for this reason a study was made  
of the role played in the above synthesis by oxygen-free  
intermediate complexes of the methyl and hydrocarbon type.

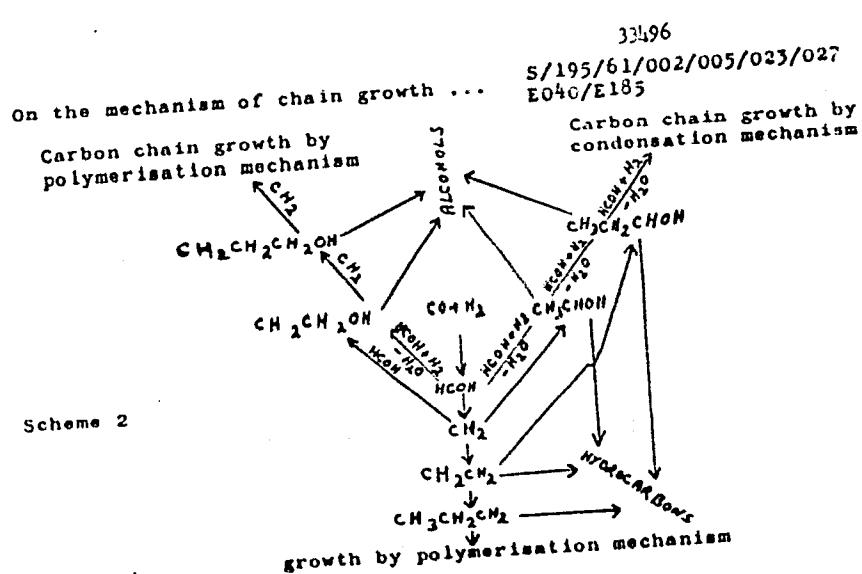
Card 1/4

On the mechanism of chain growth...

33496  
S/195/61/002/005/023/027  
EO40/E185

radicals. The study was made with the help of radioisotope tracer technique using carbon monoxide labelled with C<sup>14</sup> carbon (9000 pulse/min per m<sup>l</sup>). In the tests, a mixture of C<sup>14</sup>O + H<sub>2</sub> (in the 1:1 by volume ratio) was passed over freshly prepared iron catalyst heated to 295 °C, the reaction was allowed to proceed for various periods and the products were then separated. The radioactivity of the separated hydrocarbons was then plotted against the reaction time and the number of carbon atoms in the synthesised hydrocarbons. The results obtained indicated that both the condensation and polymerisation mechanisms are involved in the synthesis of the products. The actual mechanism prevailing at any stage of the reaction was found to depend on the experimental conditions. A general scheme was formulated for the various reactions that can occur when a stream of carbon monoxide/hydrogen mixture is passed over iron catalyst heated to about 300 °C.

Card 2/4



On the mechanism of chain growth ....

33496  
S/195/61/002/005/023/027  
E040/E185

There are 4 figures, 2 schemes and 20 references; 11 Soviet-bloc and 9 non-Soviet-bloc. The four most recent English language references read as follows:

Ref. 12: E.J. Gibson, Chem. and Ind., 649, 1957.

Ref. 15: G. Blyholder, P.H. Emmett,  
J.Phys.Chem., v.63, 962, 1959.

Ref. 17: G. Blyholder, P.H. Emmett,  
J.Phys.Chem., v.64, 470, 1960.

Ref. 18: W.K. Hall, R.J. Cokes, P.H. Emmett,  
J.Amer.Chem.Soc., v.82, 1027, 1960.

X  
ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR  
(Institute of Petrochemical Synthesis, AS USSR)

Card 4/4

STEPANOVA, N.D.; ALESKOVSKIY, V.B.

Possible use of extraction for determining the microquantities  
of oxygen dissolved in water. Izv.vys.ucheb.zav.;khim. i khim.  
tekh. 7 no. 1:24-28 '64. (MIRA 17:5)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta,  
kafedra analiticheskoy khimii.

STEPANOVA, N. G.

STEPANOVA, N.G.; RYABININA, R.M.; KUNYAVSKIY, M.N., kandidat tekhnicheskikh nauk, redaktev; BOGOMOLOVA, M.P., redaktor; GLAZKINH, N.N., tekhnicheskij redaktev.

[Knowledge of materials] Materialevedenie. Pod red. M.N.Kunyavskogo. Moskva, Izd-vo ober premyshl. 1953. 167 p. (MERA 7:8)  
(Metals) (Machinery industry)

This book analyzes the properties and structure of metals, alloys, and auxiliary non-metallic materials used in machine manufacturing. It also gives fundamental information on the thermic treatment of steel.

D-82312

STEPANOVA, N.G.

Modified method for studying liver function (after Quick and Pytel') in small laboratory animals. Lab.delo 8 no.5:49-53 My '62. (MIRA 15:12)

1. Laboratoriya toksikologii (zav. A.A.Narevskaya) Instituta gigiyeny truda i professional'nykh zabolеваний AMN SSSR, Moskva. (LIVER)

STEPANOVA, N.G.

Disorders of some liver functions in dimethylformamide in-  
toxication. Toks. nov. prom. khim. veshch. no.1:80-84'61.  
(MIRA 16:8)

(LIVER--DISEASES) (FORMAMIDE--TOXICOLOGY)

STEPANOV, N. G.

"DET in the Struggle with Insects and Ticks Harmful to Animal Husbandry"

Sel. Khoz-vo, Taazhik, 1948, No 6, pp36-39, in  
Letopis' Zhurnal'nykh Statey, 1949, item No 4178

STEPANOVA, N. G.

Stepanova, N. G. "Effect of DDT upon certain mites and ticks,"  
Sotsial. filiala Akad. nauk SSSR, Issue 8, 1948 p. 36-38

SC: U-3564, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 11, 1948).

STEPANOVA, N. G.

"Increased Productivity in Crossbred 'Svitskikh' Cows under conditions of Improved Feeding and Maintenance"

Soobshch. Tadzh. Filiala Akad. Nauk SSSR, Vol 15, 1949, pp32-37 from  
Izopis' Zhurnal'nykh Statey, 1949, item 24193

STEPANOVA, N. G.

Report of the Tadzhik Branch of the USSR Academy of Sciences, No. 3, 1943. In  
The report are published the works of:

K  
LOTOTSKIY, B. V. and SIROTE~~NO~~, M. P. Hemosporidioses of small cattle in Tadzhikistan.  
STEPANOVA, N. G. The effect of DDT on certain ticks.  
SYCHEVSKAYA, V. I. Ovine myases.

So: Veterinariya; Vol 26; No. 7; July 1949; lncl.  
TABCON

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RECORDED

1. E. G. STEPANOV

2. USSR (600)

4. Cattle - Tajikistan

7. Summer stall care of cattle in the valley regions of Tajikistan. Soob. IFAN  
SSSR no. 27, 1950.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

STEPANOVA, N.G.

Fattening and meat qualities of Swiss-zebu-like crossbreeds of  
Tajikistan. Izv.Otd.est.nauk AN Tadzh.SSR no.13:77-92 '56.  
(MIRA 9:10)

1.Institut zhivotnevedatva, Akademiya nauk Tadzhikskoy SSR.  
(Tajikistan—Cattle)

STEPANOVA, N.G.

Tajik Research Institute for Animal Husbandry and Veterinary Medicine.  
Trudy VIEV 23:356-358 '59. (MIRA 13:10)  
(Tajikistan--Veterinary research)

STEPANOVA, N.G.

Hexokinase and glucose-6-phosphate dehydrogenase activity  
in cellular fractions of a regenerating liver and the effect  
of cortisone. Vop. med. khim. 9 no.5:495-500 S-0 '63.  
(MIRA 17:1)

1. Otdel biokhimii Instituta eksperimental'noy meditsiny  
AMN SSSR, Leningrad.

REVIEWED BY: [redacted]

Activity of the microorganism against malignant cells and  
its possible application in the early formations of the rabbit embryo.  
Editor. Nagy, S., et al. Biologicheskaya Kemiya 1964.

(MAPA 7:12)

11. Department of Pathology, Institute of Experimental Medicine,  
Academy of Medical Sciences of the U.S.S.R., Moscow.

СИСТЕМЫ МЕТАБОЛИЗМА

Процессы углеводного и фосфорного метаболизма в костном мозге свиней при гемолитической анемии, вызванной фенилгидразином. Токсичн. хим. вестн., № 6: 145-150  
(MIRA 18:4)  
1964.